1-1-1990

Computing at Lehigh

Lehigh University

LUCC Computing at Lehigh

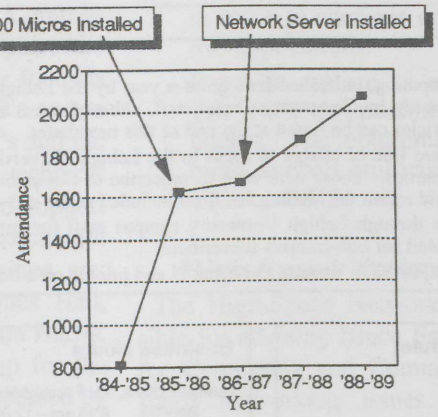
Newsletter of the
Lehigh University Computing Center

Volume XVII, Number 3

LUCC Seminar Attendance

(By Academic Year)

Year	Attendance
'84-'85	807
'85-'86	1624
'86-'87	1668
'87-'88	1866
'88-'89	2071



Quattro Pro Graphics

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From the Director

William R. Harris (WRH0@LEHIGH)

In the November 1989 issue of *Computing at Lehigh*, I discussed some of the longer term and critical academic computing issues facing the University. All of these issues are being addressed by faculty committees and I would like to give you some of the highlights of their discussions.

Computing Intensive Needs Committee (CINC)

The CINC members are Gary Lutz - Chairman, William Schiesser, David Walker, Vincent Munley, Wei-min Huang, Roy Herrenkohl, Frederick Chapman, and William Harris. The Committee has met and discussed some CYBER usage statistics and Pittsburgh Supercomputer Center usage statistics provided by LUCC. The consequences of not expanding

See Director, page 3

Lehigh University Computing Center Hardware

CDC CYBER 180 Model 850 (32 MBytes Memory, NOS/VE V1.5.1)
IBM 4381 Model 11 (16 MBytes Memory, VSE/SP V2.1.5)—Administrative
IBM 4381 Model 13 (24 MBytes Memory, VM/SP HPO V1.5.0, MUSIC/SP V2.1)—Network Server
VAX 8530 (32 MBytes Memory, VMS V5.2)

Computing at Lehigh est. 1986

Lehigh University Computing Center Newsletter

General Editor ..... Blair R. Bernhardt

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Lehigh University
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General Information

Computing at Lehigh is a report on computing, published four times a year by the Lehigh University Computing Center. Article contributions are primarily by Computing Center staff, although users are also encouraged to contribute. Instructions for submitting articles can be found at the end of this newsletter.

Subscriptions to *Computing at Lehigh* are free of charge to those in the Lehigh University Computing Center user community and to other interested parties. Those who wish to subscribe to *Computing at Lehigh* or make changes regarding their subscription should return the mailing list form included at the end of this newsletter.

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Computing at Lehigh is formatted with XEROX's Ventura Publisher™ and printed on a PostScript™ printer.

Public Site Hours (Academic Schedule)

	Room Hours	Student Consulting Hours
Central Site Users' Area, 180 Fairchild-Martindale		
Sun	12:00 noon – 12:00 midn	12:00 noon – 12:00 midn
Mon–Thu	6:30 am – 12:00 midn	8:00 am – 12:00 midn
Fri	6:30 am – 10:00 pm	8:00 am – 5:00 pm
Sat	9:00 am – 8:00 pm	10:00 am – 8:00 pm
Central Site Microlab, 292 Fairchild-Martindale		
Sun	12:00 noon – 12:00 midn	no consulting
Mon–Thu	6:30 am – 12:00 midn	no consulting
Fri	6:30 am – 10:00 pm	no consulting
Sat	9:00 am – 8:00 pm	no consulting
Drown, Room 208		
Mon–Thu	8:00 am – 10:00 pm	no consulting
Fri	8:00 am – 6:00 pm	no consulting
Sat	8:00 am – 1:00 pm	no consulting
Fritz Lab Annex, Room A3		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Grace, Room 28		
Sun	24 hours	2:00 pm – 12:00 midn
Mon–Thu	24 hours	1:00 pm – 12:00 midn
Fri–Sat	24 hours	1:00 pm – 5:00 pm
Libraries: Fairchild-Martindale, Linderman, & Media Center		
Sun	12:00 noon – 12:00 midn	no consulting
Mon–Sat	8:00 am – 12:00 midn	no consulting
Maginnes, Room 491		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Sat	9:00 am – 1:00 pm	no consulting
Mountaintop Campus, B103 Building A		
Mon–Thu	6:30 am – 10:30 pm	no consulting
Fri	6:30 am – 5:30 pm	no consulting
Mountaintop Campus, D109, D117 Building A		
Mon–Thu	6:30 am – 10:30 pm	1:00 pm – 4:00 pm
Fri	6:30 am – 5:30 pm	1:00 pm – 4:00 pm
Packard, Room 502		
Mon–Thu	8:00 am – 10:00 pm	10:00 am – 10:00 pm
Fri	8:00 am – 10:00 pm	10:00 am – 5:00 pm
Sat	8:00 am – 2:00 pm	no consulting
Whitaker, Room 257		
Mon–Thu	8:00 am – 8:00 pm	10:00 am – 12:00 noon 1:00 pm – 3:00 pm
Fri	8:00 am – 5:00 pm	10:00 am – 12:00 noon 1:00 pm – 3:00 pm

Business Hours

Business Office, 394 Fairchild-Martindale
Mon–Fri 8:15 am – 12:00 noon
1:00 pm – 4:45 pm

User Services, 185/194/196 Fairchild-Martindale
Mon–Fri 8:00 am – 12:00 noon
1:00 pm – 5:00 pm

Microcomputer Store, 524 Brodhead Ave.
Mon–Fri 9:00 am – 5:00 pm

Operations, 171 Fairchild-Martindale
Mon–Fri 8:00 am – 11:30 am
1:00 pm – 4:30 pm

Operator Support/Machine Room, 179 Fairchild-Martindale
Sun 2:00 pm – 10:00 pm
Mon–Thu 8:00 am – 12:00 midn
Fri 8:00 am – 10:00 pm
Sat 9:00 am – 5:00 pm

Special Forms Processing Hours

Liquid Ink Plots
Tue,Fri 8:00 am – until done

Computing Center Directory

Information About Policies and Plans
Director
William R. Harris .... (215) 758-3830
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Associate Director of Computing Facilities
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Microcomputer Store Manager
Robert R. Kendi 758-4606
User Services Manager
Monica A. Newman 758-3990

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Accounting Assistant
Annette L. Ruhe 758-3825

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Frederick W. Chapman 758-3218
George J. Grevera 758-5152
Dean E. Nelson 758-4988
Richard A. Silvius 758-3985
Binod K. Taterway 758-3984

Information About Software Availability
Software Librarian - Mainframe
Judith K. Allio 758-3993
Software Librarian - Microcomputer
Doris A. Oravec 758-4592

Systems Status, Technical Information
On-duty Consultant
..... 758-4141

General User Information
Administrative Clerk
Lori F. Hertzog 758-3990
Accounts Coordinator
Ann Marie Matusa 758-3992

Information About Tapes and Supplies
Data Processing Tape Librarian
..... 758-4140

Consulting Policy

Consultants are provided to assist users in the use of Lehigh University's computer resources. Consultants are not authorized to interpret course assignments, write code, or debug program logic.

When in need of a consultation, users are requested to contact the LUCC student consultants (present at several of the public sites and at ext. 84141), who are hired to augment the full-time staff consultants.

Computer	On-Campus Phone (300-19.2K Baud)	Off-Campus Phone (1200/2400 Baud)	Network Node Name	Network
Network Server	(NS) Ext. 46000	974-6000	LEHIGH	BITNET
			NS.CC.Lehigh.EDU	Internet
CYBER 850	(CDC) Ext. 46800	974-6800	CDC1.CC.Lehigh.EDU	Internet
VAX 8530	(VAX) Ext. 46400	974-6400	VAX1.CC.Lehigh.EDU	Internet

Director, from front cover

the computing capacity at Lehigh is a concern. The Committee will be investigating the needs of the campus with regard to high performance computing through a campus survey, and also will be inviting vendors to make presentations to the Committee on their offerings. The Committee has set up a computer conference on the Network Server to hold discussions between meetings. I invite anyone who is interested to join in the discussion. The conference may be accessed by typing **IN CINC** at the LUNA main menu on the Network Server.

PC Rollover Committee

Another CCAC subcommittee is the PC Rollover Committee. This Committee is looking at the need to replace the aging personal computers on campus. The primary focus is to define the desktop computing needs for the 1990's and to suggest a plan for the replacement of the public PC's and the faculty machines. The Committee will do a technical analysis of the minimum hardware requirements to support Unix. As with the CINC, it will survey the faculty to attempt to determine needs. The members of the Committee are: Bruce Hargreaves - Chairman, Tulga Ozsoy, James Hall, Francis Harvey, Gary DeLeo, Tim Foley, and William Harris. A Network Server conference has also been set up for the discussion of this topic. The conference may be accessed by typing **IN PCROLL** at the LUNA main menu.

CCAC Planning Committee

The Planning Committee is chaired by Edwin Kay, who is also the chair of the CCAC. Other members of the Committee are: Francis Harvey, Julie Williams, Bruce Fritchman, William Schiesser, Carol Lidie, Tim Foley, and William Harris. This Committee is responsible for making recommendations regarding the direction LUCC should take in the next three to five years. It will be responsible for integrating the recommendations from the two previously mentioned Committees into a LUCC plan, and for addressing the remaining issues not addressed by the other Committees. Provost David Sanchez requested that a computing and communications plan be formulated and available for the new Provost by July of 1990. The Planning Committee has addressed the issues of providing continuing support of LUCC activities and the future support of a more distributed computing environment. It has addressed the immediate computing needs and has recommended priorities for the items which could be addressed in this fiscal year, within the existing budget. These items are:

- Provide a fund of $25,000 to address the most critical PC replacement needs of the faculty. The PC Rollover Committee will administer the funds much like the CCAC Software Subcommittee. The procedure and the conditions will be announced by the Committee early in the Spring semester.
- Upgrade the Network Server to handle the load for the next two years. The replacement of the present machine, with a distributed system, will be necessary to satisfactorily continue the service after the two years. The replacement will be addressed in the report from the Committee at the end of the Spring 1990 semester.
- Add another disk drive to the Administrative system in order to continue operation of existing administrative applications.
- Begin to replace as many of the public-site Zenith 158 PC's as possible within the existing LUCC budget. The replacement machines should, at a minimum, support multitasking operating systems such as Unix or OS/2.

High-Speed Network Advisory Committee

The High-Speed Network Advisory Committee is responsible for advising Bruce Fritchman, Assistant Vice President for Computing and Communications, with regard to high-speed networking issues. The Committee is addressing policies regarding the operation of the network, which connects five of the lower-campus buildings and is also connected to the Internet, via PREPnet. There is a small budget available to expand the network, and the Committee is asking for proposals for future connections. If there is an immediate or near-term need to have access to the high-speed network, I suggest you contact the Chairman, Dick Denton, or one of the other members of the Committee. The members of the Committee are:

College of Arts & Science - Bob Barnes, Bobb Carson

College of Engineering - Dick Denton, John Ochs

College of Education - Gary Lutz

College of Business & Economics - Joseph Klein

Graduate Studies & Research - Matt Reilly, John Wilson

University Libraries - Joe Lucia

Computing Center - William Harris

Administrative Systems/Telecommunications - Roy Gruver

V.P. Student Affairs - Ed Eigenbrot

Controller's Office - F. Robert Huth, Jr.♦

Mainframe Computing

EDT and EVE - the VMS Editors on the VAX

Dean E. Nelson (DEN0@LEHIGH)

EMACS is the editor of choice for most LUCC VAX users. It has the advantage of also being available for many microcomputers. However, EMACS may not be available on the next VAX one uses (or the next microcomputer, for that matter). For this reason, it may be prudent to learn one of the VAX/VMS editors. There are two to choose from: EDT and EVE. Both are part of the VMS operating system.

EDT is a full-featured editor which can be used in either line, keypad, or no-keypad mode. The keypad mode is a full screen editor similar to EMACS, or to EDIT_FILE (EDIF) on the CYBER. As its name implies, functions such as search, cut, and paste are invoked by using keypad keys. This is true when using a DEC terminal or emulating a DEC terminal, but when using NetDial these functions are mapped to the F1-F10 function keys. A description of this mapping can be obtained by typing **H** (for Help) at the main NetDial menu and choosing option 3 at NetDial's Help menu.

Before EDT is entered, the terminal being used should be known to the VAX so that such full screen applications are permitted. If using NetDial or a DEC-compatible terminal or emulation program, enter the command:

```
SET TERM/INQUIRE
```

at the '$' prompt or add it to the LOGIN.COM file.

EDT is invoked at the VMS '$' prompt by typing:

```
EDIT/EDT filename
```

Unless redefined, the command:

```
EDIT filename
```

will also invoke EDT since it is the default editor on the VAX. By entering the following symbol definition in one's LOGIN.COM file:

```
$ EDT :== EDIT/EDT
```

EDT may be invoked by typing:

```
EDT filename
```

When EDT starts, a '*' prompt will appear. At the '*' prompt, enter **HELP** for more information on using EDT, and then enter **C** to change to keypad mode. A blank screen with an End-Of-Buffer [EOB] symbol will appear. By default, EDT starts in line mode. To have EDT automatically start in keypad mode, simply create in the login (root) directory a file named EDTINI.EDT which contains the line:

```
SET MODE CHANGE
```

To get out of EDT, press **Ctrl-Z** (hold down the **Ctrl** key and press **Z**), and then type at the '*' prompt either **EXIT** (to exit and save changes) or **QUIT** (to exit without saving changes).

Documentation for EDT can be found in Volume 5A of the VMS manuals, entitled *Guide to Text Processing: EDT Reference*. This manual is located in the LUCC Mainframe Software Library at Room 182 of the Central Site.

EVE is an application written by DEC with the VAX Text Processing Utility, or VAXTPU. EVE is also a full-featured editor with both key functions and command line functions. As with EDT, the keypad functions have been remapped to F1-F10 when using NetDial. The key combination **Shift-F2** is used to enter commands.

EVE is invoked at the VMS '$' prompt by typing:

```
EVE filename
```

To exit, press **Ctrl-Z**. EVE may be used to read files with record lengths greater than 256, whereas EDT cannot. In addition, features may be added using VAXTPU.

Documentation for EVE can be found in Volume 5B of the VMS manuals, entitled *VAXTPU Reference: EVE*. This manual is located in the LUCC Mainframe Software Library at Room 182 of the Central Site .

Both EDT and VAXTPU may be invoked using any VMS programming language. Therefore, the editing capabilities of either of these utilities may be used within programs. For instance, the VAXTPU functions may be used within a VMS BASIC program, or an interactive EDT session may be invoked during execution of a VMS FORTRAN program.♦

LISCOMP Now Available on VAX 8530

LISCOMP, a program for the analysis of LInear Structural equations with a COMPrehensive measurement model, is now available on the VAX 8530. LISCOMP is a structural equation modeling program especially well suited for categorical and other non-normal data. It also includes standard features for continuous multivariate normal data. It has special features that make it particularly useful for advanced applications and for research on statistical issues related to structural equation modeling.

To access LISCOMP for the remainder of a login session, the command:

```
USE LISCOMP
```

must be entered at the VMS prompt. Then, to run LISCOMP, enter the command:

```
LISCOMP
```

at the VMS prompt.

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LISCOMP is documented in the *LISCOMP User's Guide*, available at the Central Site Users' Area (in a documentation cabinet labelled "VAX"), and (on one-day reserve) at the Fairchild-Martindale Library.♦

ENPORT Now Available on VAX 8530

ENPORT, an interactive program that aids in the modeling, simulation, and performance assessment of dynamic systems, is now available on the VAX 8530.

To access ENPORT for the remainder of a login session, the command:

```
USE ENPORT
```

must be entered at the VMS prompt. To run ENPORT, enter the command:

```
ENPORT
```

at the VMS prompt.

Use of ENPORT is described in the *ENPORT Reference Manual*, available at the Central Site Users' Area (in a documentation cabinet labelled "VAX").♦

Update on MINITAB Graphics on VAX 8530

In the last issue of *Computing at Lehigh* (November 1989), a solution for the problem of displaying MINITAB graphics to the screen was presented (within "Q and A"). Since that time, a new device driver has been written for NetDial users; the driver eliminates the need to explicitly change the screen mode using **Alt—** or **Alt-T**. In an interactive MINITAB session, define the device as MSKERMIT using the following:

```
GOPTIONS;
DEVICE='MSKERMIT';
```

Although this driver may be used successfully when using MINITAB interactively, it will not work properly in non-interactive mode. Those interested in displaying graphs saved in files or graphs produced in batch jobs should contact User Services at ext. 84988.♦

Processing Hours Available On-Line

The charges associated with running jobs on LUCC mainframes are determined by the time of day that the job is executed. This holds true for all categories of computer authorizations except for Industrial and External Educational accounts, which are charged at fixed rates.

Copies of the rate charts for all categories of use are available at User Services, Room 194 or on the Network Server under INFO topic **CCRATES**.

LUCC encourages efficient use of resources and requests that users queue their jobs to run at hours other than prime time. The schedule of processing hours can be obtained by typing:

```
BULL PROCESS
```

on the CYBER 850 or:

```
BULLETIN
```

on the VAX 8530. Once in **BULLETIN** on the VAX, enter **DIR** for a list of bulletins, and then enter the number of the processing hours bulletin.♦

DISSPLA Upgraded on CYBER 850

The DISSPLA graphics package, by Computer Associates, has been upgraded on the CYBER 850 to Version 10.5. DISSPLA is an extensive library of FORTRAN-callable subroutines which provides access to the full range of traditional graphics capabilities, including full 3-D support. Users developing their own applications or adding graphics to existing applications may want to use DISSPLA.

To access DISSPLA Version 10.5, enter the command:

```
USE DISSPLA
```

(once per login session) prior to running a program which makes calls to the DISSPLA library. The prior version (9.2) is also available and can be accessed by entering the command:

```
USE DISSPLA9P2
```

in a login session. Note that only one of these versions will be available at a time; the most recently issued of these **USE** commands will determine the version of DISSPLA to be used.

Version 10.5 contains some new features and improvements, such as the ability to run DISSPLA programs from any catalog (one is no longer restricted to $LOCAL) and the addition of CGM (Computer Graphics Metafile) which delivers new features and increased flexibility to the metafile facility.

Included with Version 10.5 as separate products are Codebook and GKS. Codebook is an interactive option to DISSPLA that produces over 50 prototype DISSPLA application programs designed specifically for scientific and engineering applications. To access Codebook, simply enter **CODEBOOK** at the NOS/VE prompt. Special Codebook demos are available by entering **CBDEMO** at the NOS/VE prompt.

GKS (Graphical Kernel System) is a low-level graphic system for use in creating portable applications that produce computer generated two-dimensional pictures on vector or raster output devices. To access the GKS library, enter the command:

```
USE GKS
```

prior to running GKS programs.

Documentation for DISSPLA consists of the following:

- *CA-DISSPLA FIRST FACTS* - An introduction to CA-DISSPLA, including example programs with listed code and graphics output.

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- *CA-DISSPLA User's Manual* - Information about the basic system and the option sets.
- *CA-DISSPLA Codebook User's Guide* - Description of a Codebook session along with a catalog of available prototypes.
- *Guide to Making CA-DISSPLA Codebook Masters* - A description of creating and modifying masters and other Codebook files for specific needs (which requires an understanding of FORTRAN and CA-DISSPLA).
- *CA-GKS Command Reference Guide* - Briefly describes the GKS Standard and the CA-GKS implementation, and lists the 191 user-callable CA-GKS routines and functions.

These manuals are available for reference at the Central Site Users' Area (in a documentation cabinet labelled "CYBER").♦

Micro Computing

Quattro Pro Now Available

Blair R. Bernhardt (BRB0@LEHIGH)

Quattro Pro is now available for faculty and staff to install on Lehigh-owned microcomputers under Lehigh's Educational Site License Agreement with Borland International, Inc. Further information regarding this license is available in the November 1989 issue of *Computing at Lehigh*, as well as on the Network Server under INFO topic CCNEWS. Personal copies of Quattro Pro may be purchased by faculty, staff, and students through the Microcomputer Store.

New Features in Quattro Pro

Quattro Pro provides a number of new features and enhancements in addition to providing command compatibility with both Lotus 1-2-3 (Version 2.01 or earlier) and the original version of Quattro. Besides a new menu structure which facilitates the use of these features, some of the new spreadsheet features provided by Quattro Pro include:

- **VROOMM™** (Virtual Real-Time Object-Oriented Memory Manager), which allows Quattro Pro to dynamically allocate memory for the program itself. This allows one to create larger spreadsheets without additional hardware.
- **Presentation options** allow including different fonts, bullet characters, lines around cells, cell shading, and embedding graphs within printed spreadsheets.
- **Multiple windows** can be opened within Quattro Pro allowing concurrent editing of up to 32 spreadsheets at a time.
- **Spreadsheet linking** allows the linking of cells in up to 63 spreadsheets at a time. Changing linked data in one of these spreadsheets will automatically change the corresponding data in the other linked spreadsheets.
- **Background recalculation** allows continuous typing without having to wait for recalculation. Recalculation takes place between keystrokes.
- **Undo command** allows reversing certain kinds of mistakes such as accidental deletions.
- **Automatic mouse support** occurs if mouse software is loaded. Allows full access to commands and scrolling of windows to get to any cell.
- **Linear programming** allows one to find the optimal solution within given constraints for one's model.
- **New commands** include 13 @functions (22 more than Version 2.01 of Lotus 1-2-3) and 31 macro commands.

Printing and graphing capabilities have been enhanced with the following:

- **Bitstream fonts** for printing and displaying graphs and spreadsheets.
- **HP LaserJet font cartridge support** for printing graphs and spreadsheets.
- **Page preview** for previewing the printed graph or spreadsheet on the screen and zooming in on any part of the display.
- **Slide show presentations** which can be created as a series of graphs.
- **Graph annotation** for drawing directly on the graph as well as adding additional text to the graph. There are a number of new types of graphs, and graphs can consist entirely of text. New graph customization features allow one to create dual y-axis and logarithmic graphs.

Quattro Pro Installation

The hardware required to run Quattro Pro consists of an IBM compatible microcomputer with at least 512K of RAM (640K recommended) and a hard drive with at least 3Mb of disk space available (4Mb recommended). Quattro Pro supports a large number of graphics cards, as well as mice which are compatible with the Microsoft Mouse interface.

Within the initial installation process for Quattro Pro, the user must choose the menu tree (command set) to be used: Quattro Pro, Quattro, or 123. The Quattro Pro menu tree is a new command set which has been optimized for easy access

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to all Quattro Pro features as well as for the use of a mouse. The Quattro menu tree provides commands which have the same syntax as those used in the previous version of Quattro, as well as extensions to the old Quattro command set to allow access to the new Quattro Pro features. The 123 menu tree provides commands which have the same syntax as Lotus 1-2-3 (Version 2.01) as well as extensions to the Lotus command set to allow access to the additional Quattro Pro features.

During the installation process, it is best to choose the Quattro Pro or the Quattro menu tree. Once one of these is installed, Quattro Pro may be invoked with the installed menu tree by typing Q at the DOS prompt. To invoke Quattro Pro with the Lotus 1-2-3 menu tree, one types Q123 at the DOS prompt. No matter which of the three menu trees is the default, one of the other menu trees can be selected at any time from within Quattro Pro.

Installing Quattro Pro on a LAN

In order to use Quattro Pro on a LAN, *each user* must have write access to a copy of both the menu tree file and the resource file for the command set which he or she wishes to use. Each set of these files requires approximately 200K of disk space. If the user wishes to be able to switch between the three different menu trees, all three sets of files must be present which will take approximately 600K of disk space.

In addition to the disk space required for the menu tree and resource files, *each user* also requires disk space for any additional fonts he or she may request. During the initial installation of Quattro Pro, the user is prompted as to the quantity of fonts which should be created (i.e., a few, a moderate number, a lot). No matter what the response, Quattro Pro will still need to create fonts whenever the user requests fonts which have not already been created. Also, whenever the user previews the printed page, Quattro Pro needs to create fonts. A single font of either of these two types may require up to 200K of disk space.

Therefore, to allow space for a single menu tree as well as space to create fonts, each LAN user requires at least 1Mb of disk space. To allow space for all three menu trees as well as space to create fonts, each LAN user requires at least 1.4Mb of disk space.

Quattro Pro Functions and Macros

Quattro Pro provides 22 @functions beyond those in Version 2.01 of Lotus 1-2-3 and 31 new macro commands. Spreadsheet and macro compatibility with Lotus 1-2-3 may be maintained if one does not use these new features.

However, problems may arise when using commercial spreadsheet templates which attempt to use extensions to Lotus found in other "compatible" spreadsheets. One such problem was found with respect to the @VERSION command which is found in both Quattro Pro and VP-Planner, but not in Lotus 1-2-3 or the previous version of Quattro. A macro can try to use the @VERSION command and then check whether an error is returned (indicating the real Lotus), or an answer is returned. The answer returned by Quattro Pro differs from that returned by VP-Planner; consequently, strange results may occur.

Another potential problem, which was also present in the previous version of Quattro, is in how Quattro Pro handles the compatibility of functions with Lotus. Lotus Version 1A contains an @TODAY function, while Lotus Version 2.x does not. When Lotus 2.x encounters the @TODAY function, it automatically converts it to the new @NOW function. Quattro and Quattro Pro contain both the @TODAY and the @NOW functions, which are similar in that the integer portion returned by both functions corresponds to the current date. However, the @NOW function returns a decimal portion corresponding to the current time. Therefore, spreadsheets and macros which contain the @TODAY function will return different results when used in Lotus Version 2.x than when used in Quattro or Quattro Pro, because Lotus Version 2.x will convert @TODAY to the slightly different @NOW function, whereas Quattro and Quattro Pro will not perform any conversion.♦

WordStar Release 5.5 Available

WordStar Release 5.5 has been installed on the local area networks (LAN's) at the following public computing sites: Central Site Users' Area, 292 Fairchild-Martindale, 28 Grace Hall, and the Mountaintop Campus site at Room B103 of Building A.

WordStar Release 5.5 features include:

- Star Exchange, a file conversion program that enables a user to exchange files with other word processing programs.
- Inset, a graphics and text integrator that permits the user to capture graphics from other programs and insert them into WordStar documents.
- Style sheets which store layout settings for text such as margins and tabs, line spacing, print attributes, etc.
- Advanced Page Preview which allows the viewing of text and graphics, page layout, etc., before printing.
- The ability to import Lotus 1-2-3 and Quattro spreadsheets and dBASE files into WordStar documents, with no separate conversion.
- Editing aids, such as a spell checker with definitions and a thesaurus.

Documentation for WordStar Release 5.5 is available at the following locations: Central Site Circulation Desk, 292 Fairchild-Martindale, 28 Grace Hall, and the Educational Technology Center.♦

WordPerfect 5.1 Now Available

A new, improved version of WordPerfect has arrived for IBM PC's and compatible computers. Many features have been added to WordPerfect Version 5.1, such as:

- The ability to print any of the more than 1700 characters in the WordPerfect character sets.
- Pull-down Menus and Mouse support.
- Easy label printing.
- An equation editor for mathematical word processing.
- Easier-to-understand merge codes (which are in English).
- A table option which makes it easy to create tables in nearly any format.
- Some minor enhancements to Tab, Help, Hyphenation, and Macros.
- Forward and backward compatibility between WordPerfect 5.0 and 5.1.

Note: Bitstream Fontware V3.0 for WordPerfect 5.0 is not compatible with V5.1. A new release of Bitstream for WordPerfect 5.1 is scheduled for release in early March.

Lehigh University's agreement with WordPerfect Corporation applies to University-owned machines located on campus. (Personal copies of WordPerfect 5.1 for faculty, staff, and students can be ordered for $135.00, by obtaining a Direct Order Form from the Microcomputer Store. Registered owners of WordPerfect 5.0 will receive upgrade information directly from WordPerfect Corporation.)

Under the University's agreement, the costs to *upgrade* from WordPerfect 5.0 to 5.1 are listed below:

- **$5.00** - WordPerfect 5.1 for a PC already running WordPerfect 5.0
- **$14.00** - A complete set of the WordPerfect 5.1 manual pages
- **$10.00** - A new binder to hold the WordPerfect 5.1 pages. (The old WordPerfect 5.0 binder will work but the new one is slightly bigger.)

New orders for WordPerfect 5.1 (for those not already running WordPerfect 5.0) will cost $23.00, if by faculty or staff for installation on a University-owned machine. This fee is for installation on one PC. A complete WordPerfect 5.1 manual will cost $40.00 (for those not already having a WordPerfect 5.0 license).

Orders for the above items can be placed by contacting Sandy Edmiston either at ext. 84753 or at Network Server ID SJE0.♦

Wisc-Ware

Doris A. Oravec (DAO1@LEHIGH)

Lehigh University is a member of Wisc-Ware, a consortium of educational institutions that distributes research and instructional software for IBM compatible microcomputers. Wisc-Ware's purpose is to give faculty members an easy way to find software for their teaching or research work, and to assist them in distributing software they have developed to other faculty members and researchers.

Wisc-Ware is based at the University of Wisconsin-Madison; presently, membership totals 114 and includes many types and sizes of educational institutions. Faculty members should find Wisc-Ware flexible and easy to deal with.

The current Wisc-Ware Catalog (December, 1989 edition) lists over 200 software packages in a wide variety of academic fields. The catalog also contains descriptions of the software programs, licensing options and prices, licensing terms, and ordering information. As a member of the Wisc-Ware consortium, Lehigh faculty and staff members can purchase the software offered under three different licensing options: a Site License, an Individual License, and a Class License. (**Note:** Not all programs are available under all three options.)

To obtain a copy of this catalog, or information on submitting software for distribution by Wisc-Ware, please contact Lehigh University's Wisc-Ware liaison, Doris Oravec (DAO1), Room 185 Fairchild-Martindale Bldg., ext. 84592.♦

Maginnes Diskette Conversion Station

A diskette conversion station has been implemented in Room 491, Maginnes Hall. This station contains a single 360KB 5¼" (low-capacity) drive and a single 1.44MB 3½" (high-capacity) drive. This station will allow users to transfer information between a low-capacity 5¼" diskette and a low- or high-capacity 3½" diskette; instructions are located at the station.♦

WordPerfect Bulletin Board

This is a reminder to WordPerfect users that the Network Server contains a WordPerfect bulletin board, to which one may post questions whose answers will also be posted. To access this board, enter **IN WORDPERF** at the LUNA main menu. Users of WordPerfect may wish to examine this board from time to time just to find new ideas on the optimal use of WordPerfect. ♦

Network Operation

Transferring Files Between Computers

Blair R. Bernhardt (BRB0@LEHIGH)

Questions often arise as to how to get a copy of a file from one computer to another, especially when the two computers do not have compatible media such as the same size and format of diskettes. The answers to these questions depend on the types of computers between which the transfer is to take place. This article will address file transfers between microcomputers, the CYBER 850, the VAX 8530, and the IBM 4381 "Network Server".

When transferring files between computers, one thing which must always be kept in mind is what is to be done with the file on the other computer. Transferring your microcomputer-based word processing package, or any other executable file (.COM or .EXE files for those using MS-DOS), to a mainframe computer will be of little value as the package will not run on the mainframe. The only reason one may want to upload an executable file to a mainframe is so that someone else could then download the file to another similar microcomputer. In this case, the file must be uploaded as a *binary* file. The same is true for document files produced by many microcomputer-based word processing packages. Many of these document files contain strange codes which are used internally by the word processor. For these files to be of any use on a mainframe one must first load them into the word processor in which they were created and then write out an "ASCII" version of the file. ASCII text files can be transported and used on most non-IBM mainframe computers. File transfer software on the IBM 4381 Network Server automatically converts ASCII text files to the EBCDIC code used on IBM mainframes.

Microcomputer to Mainframe File Transfers with Kermit

In general, file transfer between microcomputers and mainframe is by means of serial communications ports. Whether transferring files from on campus to off campus, off campus to on campus, or transferring files between two computers on campus, the procedure is generally the same.

The first step is to run a terminal emulation program (such as Kermit) on the microcomputer, and then connect to the mainframe. A terminal emulation program makes a microcomputer appear as a terminal to the mainframe computer and supplies such things as cursor control for full-screen applications. Kermit is available for a large variety of microcomputers and also contains a file transfer protocol which is used for transferring files between computers.

The manner by which one connects to the mainframe will vary depending on which type of microcomputer is being used and whether the micro is located on or off campus. On campus users will connect to a mainframe through the InteCom system by means of an ADI (Async Data Interface). Off campus users must use a modem to connect. **Note:** NetDial (or HDial from off campus) runs Kermit for connections to all computers except the Network Server (for which a program called PCWS is used instead of Kermit).

Kermit can be used to communicate with the Network Server from an IBM-compatible microcomputer or a Macintosh but, in that case, one must enter **VT100** as the terminal type and enter **;TTY** after his or her user id. For a user id of XYZ0, the login command is:

```
/ID XYZ0;TTY
```

Also note that this command will not appear on the screen and, once logged in, one must use VT-100 key combinations in place of the displayed function keys. (For a description of VT-100 key combinations, see Technical Bulletin #23 *Accessing the Network Server from Off Campus* which is available from User Services as well as the Network Server under INFO topic **TECHBULL**.)

Once connected to a mainframe and logged in, one must run a program on the mainframe to receive incoming data from the microcomputer (for file uploads) or to transmit outgoing data to the microcomputer (for file downloads). The program which supplies these capabilities on LUCC mainframes is another version of Kermit. So, for file transfers to take place, one needs to run two different versions of Kermit at the same time – one on the microcomputer and another on the mainframe. Once the file transfer has been initiated, these two versions of Kermit will communicate with each other and transfer "packets" of information between themselves until the file has been totally transferred.

To invoke Kermit on the CYBER 850 or VAX 8530, enter the command **KERMIT** in response to the NOS/VE or VAX/VMS prompt. To invoke Kermit on the Network Server, enter the command **/KERMIT** at the LUNA main menu. **Note:** Only invoke Kermit on the Network Server if using a microcomputer-based version of Kermit to communicate with the Server. See the next section for information on file transfers using PCWS.

Once Kermit has been invoked on any of the mainframes, enter the command **SERVER** to place the mainframe version of Kermit into a mode in which it can respond to commands sent to it by the microcomputer-based version of Kermit. Once the mainframe version of Kermit is in *Server mode*, issue commands through the microcomputer-based version of

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Kermit to actually transfer files. **Note:** If the files to be transferred are binary, before entering Server mode instruct the mainframe version of Kermit to expect binary data. On the VAX 8530 and the Network Server, this is done by entering (at the Kermit prompt) the command :

```
SET FILE TYPE BINARY
```

On the CYBER 850, enter the command:

```
SET FILE_TYPE BINARY
```

File Transfers with Kermit for MS-DOS

To issue commands on MS-DOS based microcomputers, once the mainframe version of Kermit is in Server mode, return to the **KERMIT-MS>** prompt either by typing **Ctrl-]** C (by holding down the **Ctrl** key and pressing the] key, releasing both keys and then pressing the C key) or, if NetDial is being used, by typing **Alt-X** (by holding down the **Alt** key and pressing the **X** key). Once back at the **KERMIT-MS>** prompt, send a copy of a file from the microcomputer to the mainframe by entering the command:

```
SEND filename
```

Remember - NOS/VE file names cannot contain periods. To rename the file as it is sent, enter the NOS/VE file name after the microcomputer file name as in:

```
SEND filename.ext vefilename
```

To get a file from the mainframe enter the command:

```
GET filename
```

Once all file transfers have been completed, instruct the mainframe version of Kermit to exit from Server mode. This is done by issuing the command:

```
FINISH
```

at the **KERMIT-MS>** prompt. Then, to return to the mainframe version of Kermit, issue the command:

```
CONNECT
```

Once back at the mainframe Kermit prompt, type the following when ready to exit Kermit and return to the mainframe prompt:

```
QUIT
```

Once back at the mainframe prompt, one may either continue doing things on the mainframe or log out.

File Transfers with Kermit for Macintosh

To issue commands with a Macintosh, use the pull-down menus. Once the mainframe version of Kermit is in Server mode, upload a copy of a file from the Macintosh to the mainframe by positioning the mouse cursor on the **File** menu bar and dragging the pointer to **Send file.** Then, when presented with a standard Macintosh file-open dialogue box, choose the file to be uploaded.

To download a copy of a file from the mainframe to the Macintosh once the mainframe version of Kermit is in Server mode, position the mouse cursor on the **File** menu bar and drag the pointer to **Get file from server.** Enter the name of the file to be downloaded.

Once all file transfers have been completed, instruct the mainframe version of Kermit to exit from Server mode. This is done by positioning the mouse cursor on the **Remote** menu bar and dragging the pointer to **Finish.**

Microcomputer to Network Server File Transfers with PCWS

When accessing the Network Server by pressing option **1** from the NetDial main menu, a program called PCWS is invoked once the connection has been established. PCWS is a program which was written specifically for use with the MUSIC operating system which runs on the Network Server. Once logged in to the Network Server, upload a copy of a file from the microcomputer to the Network Server by using the **UP** option of the LUNA main menu, or download a copy of a file from the Network Server to the microcomputer by using the **DO** option of the LUNA main menu. Once either of these options has been specified, a screen will be presented on which the file transfer options may be entered by using the **Tab** key to move between fields. These options include the name of the file on the microcomputer, the name of the file on the Network Server, and whether the file is binary. When all options have been entered, press the **Return** key to start the transfer. When the file transfer is complete, press **Alt-M** (by holding down the **Alt** key and pressing M) to return to the LUNA main menu.

Transferring Files Between Mainframes

All LUCC mainframes are interconnected by means of an Ethernet network, which allows files to be transferred quickly between computers. (See the article entitled "Networking at Lehigh" which appeared in the November 1989 issue of *Computing at Lehigh* for more information regarding these connections.) Among the protocols used on the Ethernet is TCP/IP (Transmission Control Protocol/Internet Protocol). FTP (File Transfer Protocol) is a TCP/IP application which is used to transfer files between computers which are Internet nodes, as are the CYBER 850 and the VAX 8530. Unfortunately, due to limitations within the MUSIC operating system, CYBER and VAX file transfers to or from the Network Server need to be done by transferring the file from one mainframe to a microcomputer and then transferring the file from the microcomputer to the other mainframe.

For one to be able to transfer files between the CYBER and the VAX, one must have an account on both of these machines. The basic process is to first log into either the CYBER or the VAX (with whatever method one usually uses) and then run FTP to access the other machine.

CYBER to VAX FTP Usage

Once logged into the CYBER, access to the VAX may be obtained by entering the command:

```
FTP VAX1
```

after which a VAX user name and password are to be entered in response to the following prompts:

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```
Copyright Control Data Corporation 1987
User   (Remote Host: VAX1) :
Password   (Remote Host: VAX1) :
ftp/
```

Once the **ftp/** prompt appears, the names of the files in the current VAX directory may be displayed with the **DIR** command. To change to a different VAX subdirectory, enter the **CD** command followed by the VAX subdirectory name. For example, to change to the VAX subdirectory PROGRAMS, the command would be:

```
CD [.PROGRAMS]
```

The names of the files in the current CYBER catalog may be displayed by issuing the **DISPLAY_CATALOG (DISC)** command at the **ftp/** prompt. To change to another CYBER catalog, issue the **CHANGE_WORKING_CATALOG (CHAWC)** command followed by a catalog name.

To copy a file from the VAX to the CYBER, once in the desired directories, enter the command:

```
GET vaxfilename cyberfilename
```

at the **ftp/** prompt. The second file name is needed when the VAX file name (e.g., TEST.PAS) is not valid on the CYBER (TEST_PAS would be valid, however).

To display the contents of a *short* VAX file to the screen, enter the command:

```
GET vaxfilename -
```

To send a copy of a file from the CYBER to the VAX, enter the command:

```
SEND cyberfilename vaxfilename
```

A list of commands supported by the CYBER version of FTP can be obtained by entering **HELP** at the **ftp/** prompt. A list of parameters for any particular command can be obtained by entering the **DISPLAY_COMMAND_INFORMATION (DISCI)** command, as follows:

```
DISCI commandname
```

at the **ftp/** prompt. When finished transferring files, use the **QUIT** command to disconnect from the VAX and exit FTP.

VAX to CYBER FTP Usage

Once logged into the VAX, access to the CYBER may be obtained by entering the command:

```
FTP CDC1
```

after which a CYBER user name and password should be entered where prompted in the following example:

```
vax1 Wollongong FTP User Process (Version 5.1)
   Connection Opened
   Using 8-bit bytes
220 CDC1.CC.LEHIGH.EDU Server FTP {ver 1.0.0}
Name (cdc1.CC.Lehigh.Edu:userid):
331 User name received, need password.
Password:
230 User USERID logged in.
*
```

Note: The VAX user name would appear in place of *userid*, and is treated as the default CYBER user name.

Once the * prompt appears, the names of files in the current CYBER catalog may be displayed with the **DIR** command. To change to a different CYBER subcatalog, enter the **CD** command followed by the CYBER subcatalog name. For example, to change to the CYBER subcatalog PROGRAMS, the command would be:

```
CD PROGRAMS
```

The names of files in the current VAX directory may be displayed by issuing the following command at the * prompt:

```
!DIR
```

To change to another VAX directory, issue the command:

```
LCD [.subdirname]
```

at the * prompt.

To copy a file from the CYBER to the VAX, once in the desired directories, enter the command:

```
GET cyberfilename vaxfilename
```

at the * prompt.

To display the contents of a *short* CYBER file on the screen, enter the command:

```
GET cyberfilename -
```

To send a copy of a file from the VAX to the CYBER, enter the command:

```
PUT vaxfilename cyberfilename
```

A list of commands supported by the VAX version of FTP can be obtained by entering **HELP** at the * prompt. A description of any particular command can be obtained by entering:

```
HELP commandname
```

When finished transferring files, use the **QUIT** command to disconnect from the CYBER and exit FTP.♦

TCP/IP Software Changed on VAX 8530

The CMU/Tek TCP/IP networking software on the VAX 8530 has been replaced by TCP/IP networking software from The Wollongong Group. This should mean better performance and reliability for both incoming and outgoing TELNET and FTP connections.

There are some differences in the FTP and TELNET commands; basically, they are more "Unix-like" than in the previous versions. Use the command **?** or **HELP** while running FTP for more information. Users should note that the name resolver software has changed. If the host name entered with the TELNET command is not a full domain name, the resolver tries to complete the name by first adding **.CC.LEHIGH.EDU** to the name. If the resulting name is not

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found, the resolver tries again with .LEHIGH.EDU added to the name. So, where the name ASA used to be sufficient to TELNET to ASA.LIB.LEHIGH.EDU, now one must enter at least ASA.LIB to connect. Currently, FTP users should enter the full domain name. The full domain name will always work for both TELNET and FTP.

Changes to the FTP command:

To get/send a file in binary mode:

- Old method:

```
SET TYPE IMAGE
GET filename      (or SEND filename)
```

- New method:

```
BINARY
GET filename      (or PUT filename)
```

To see hash marks when sending/receiving:

- Old method:

```
SET HASH ON    (turns hash mark printing on)
SET HASH OFF   (turns hash mark printing off)
```

- New method:

```
HASH    (toggles hash mark printing)
```

MGET and MPUT default to interactive mode (i.e., they prompt before each file). To stop the prompting before each file, use the command:

```
NOINTERACTIVE
```

Changes to TELNET are minimal; the default escape character is now CTRL-].

Any questions or problems should be reported to User Services at BRB0@LEHIGH or ext. 83994.♦

General Interest

Documentation Update

A new technical bulletin (#1), entitled *Using SAS 5.18 under VAX/VMS*, is now available. As the title implies, this bulletin contains VMS-specific information regarding the use of SAS.

Technical Bulletin #18, entitled *Full Screen Support for NOS/VE on the CYBER 850*, has been revised. This bulletin describes the use of different types of terminals with NOS/VE full screen applications.

The *Kermit User Guide* has also been revised to include documentation on the latest versions of Kermit in use at Lehigh.

Technical bulletins may be obtained at User Services, 194 Fairchild-Martindale, as well as at the Central Site Consultant Desk. A number of technical bulletins are also available on the Network Server after entering **IN TECHBULL** at the LUNA main menu. User guides are available at the Lehigh University Bookstore, as well as available for reference at the Central Site Users' Area, at the Drown, Grace, and Packard sites, and (on one-day reserve) at the Fairchild-Martindale Library.♦

Consultant's Corner - Q and A

Question: I am a computer novice and have recently purchased an IBM compatible microcomputer with a hard drive. A friend suggested purchasing a menu-driven disk organizer package. Is this a good idea?

Answer: Menu-driven disk organization packages are probably not a good idea for anyone who wishes to become more computer literate. Before these packages can be used, they must first be installed to allow menu-driven access to all of the software which has been installed on one's hard drive. One must have a fairly substantial understanding of the operating system in order to be able to install these packages.

Of course, you could have a friend install the package for you but then you won't know how to modify the menu should you acquire more software for your microcomputer. In general, menu-driven disk organization packages are only of value in an office environment where someone with an in-depth knowledge of the operating system is always available to make modifications when required. Even in that type of environment, things can grind to a halt when something which was not installed on the menu needs to be done with the microcomputer, and the support person is not available. Acquiring an understanding of the operating system (MS-DOS) would be much more beneficial to you than acquiring a menu-driven disk organization package.

A number of tutorial programs are available to help one learn about MS-DOS. Also, each semester the Computing Center offers a number of introductory and intermediate seminars on MS-DOS. Additional information about these seminars is available from User Services as well as available on the Network Server under INFO topic CCSEMS.

Question: When trying to use MS-DOS's **DISKCOPY** command to copy all of the files from a 5¼" disk onto a

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3½" disk (or the other way around), I receive an error message about incompatible media. What's wrong?

Answer: As stated in the error message, MS-DOS will not allow the copying of a 5¼" disk onto a 3½" disk. This is due to different disk densities between these two disk sizes. To copy the contents of a diskette to one of a different size, first **FORMAT** the other diskette. Then, use the **COPY** command to copy the files from one diskette to the other. If multiple subdirectories are to be copied, the **COPY** command may need to be issued multiple times; with MS-DOS Versions 3.21 and higher, there is the **XCOPY** command for copying files and subdirectories. To copy all files and subdirectories from the A drive to the B drive using **XCOPY**, enter the following:

```
XCOPY A:\ B:\ /S
```

Question: How does one print a Lotus 1-2-3 spreadsheet sideways and in compressed print on an HP LaserJet?

Answer: When printing, specify the following *Setup* string:

```
\027E\027&l1O\027&k2S
```

This sets the printer to print in landscape (sideways) mode and use compressed print. This string may be specified within the *Options* submenu of the *Print* command, and allows up to 176 columns and 45 lines on a page. Therefore, one must also change the page length and the right margin in order to fully utilize the printed page; both of these can be set within the *Options* submenu of the *Print* command.

Question: When one tries to load a spreadsheet created with the student version of Lotus 1-2-3 into the regular version of Lotus, an error message implying that the spreadsheet is out of date is received. Is it possible for one to load a spreadsheet created with the student version of Lotus 1-2-3 into the full-featured version of Lotus?

Answer: Neither Version 1A nor Version 2.0 of Lotus 1-2-3 will read spreadsheets created with the educational version of Lotus. The educational version's files, which have a file name extension ".WKE", are of a different format than the ".WKS" files created by Lotus Version 1A or the ".WK1" files created by Lotus Version 2.0; thus, the ".WKE" files must be converted to one of the other formats before they can be read by a full-featured version of Lotus. (**Note:** Lotus Version 1.0 ".WKS" files can be read by Lotus Version 2.0.)

Even though Lotus itself has no provision for reading ".WKE" files, they can be converted to either ".WKS" or ".WK1" files by the use of Quattro or Quattro Pro, both from Borland International. Quattro is available for use from local area networks (LAN's) at all LUCC microcomputer sites. Quattro and Quattro Pro are also available for installation on all Lehigh-owned, on-campus microcomputers; see the article entitled "Borland Software Agreement", which appeared in the November 1989 issue of *Computing at Lehigh*, for more details on acquiring Quattro or Quattro Pro for these machines.

To invoke Quattro or Quattro Pro in a mode in which the commands are the same as those for Lotus, enter the command **Q123**. The ".WKE" file can then be retrieved in the normal manner and then saved in a different format. To save the file in a different format, simply enter the file name along with the extension for the desired format. So, to convert the file TEST.WKE into a Lotus Version 2 file, load the file TEST.WKE into Quattro or Quattro Pro and then save it with the name TEST.WK1. (Note that this is *not* the same as simply renaming the file using the MS-DOS **REN** command.) Once this has been done, there will be two versions of the spreadsheet: the original file TEST.WKE, and the converted file TEST.WK1 which can be loaded into Lotus Version 2.

Question: After having used the GRAB program (provided with WordPerfect) to capture a graphic image from the screen, I imported the image into a WordPerfect document and used the LPS40.PRS device description file to create a print file. I uploaded this file as binary to the Network Server and sent it to the POST queue to be printed on the PrintServer 40. The output had a blank box where the graphic image was to be printed and a message at the bottom of the page stating that the .PRS file was out of date. What do I do now?

Answer: The LPS40.PRS file was created by LUCC to allow WordPerfect to produce PostScript files which could be printed on the PrintServer 40. This was done despite the fact that a PostScript driver – for the Apple LaserWriter – was available from WordPerfect, because the PrintServer 40 did not accept some of the Apple LaserWriter PostScript commands. Since that time, the PrintServer 40 has been "educated" to ignore the Apple-specific commands. LUCC has successfully used the Apple LaserWriter driver to solve your problem. To install the Apple LaserWriter .PRS file, press **S** (Select Printer) at the print menu. Choose option **2** for *additional printers* and then option **2** again for *other disk*. Place printer disk #2 in drive A and respond **A:** to the "Directory with printer files:" prompt. Highlight "Apple LaserWriter Plus/IINT/IINTX" and press **Return**. Press **Return** until the document screen re-appears.

Once the Apple LaserWriter .PRS file has been installed, it can be accessed by pressing **S** (Select Printer) at the print menu. Note that the list of available fonts is different for the Apple LaserWriter than for the PrintServer 40. The Palatino, ITC Bookman, and ITC Zapf fonts do not exist on the PrintServer40 and should not be selected. Please notify LUCC about any problems you may encounter with this procedure.♦

CCAC Highlights

The Computing Center Advisory Committee (CCAC) charter requires that CCAC meeting "highlights" be reported here, and that the full minutes be available on the Network Server. To access the minutes on the Network Server, type **IN CCAC-MIN** *at the LUNA main menu.*

Computing Center Advisory Committee Minutes: October 26, 1989

Members present: W. Brichta, K. Dunn, P. Coston, T. Foley, B. Fritchman, R. Gruver, J. Hall, B. Hargreaves, W. Harris, F. Harvey, E. Kay, R. Kendi, A. Larky, R. Lawrence, C. Lidie, J.G. Lutz, M. Newman, J. Paul, K. Weiner, R. Wilson

The membership of the PC Rollover Subcommittee was announced as follows: Bruce Hargreaves - Chair, Tulga Ozsoy, James Hall, Francis Harvey, Gary DeLeo, Tim Foley, William Harris.

The Subcommittee is charged with publicizing the availability of $25,000 for upgrading faculty computers and making recommendations to the CCAC in response to individual requests for funds, as well as with examining the long-term needs for upgrading (and replacing) faculty and public computers and the associated costs.

The membership of the Computing Intensive Needs Subcommittee was announced as follows: Gary Lutz - Chair, William Schiesser, David Walker, Vincent Munley, Wei-min Huang, Roy Herrenkohl, Frederick Chapman, William Harris.

The Subcommittee is charged with considering what changes, if any, should be made when the CYBER 850 is fully amortized in July 1990. The Subcommittee should consider viable options for the continuation of the services now provided by the CYBER and the services needed for the next three to five years, primarily oriented towards research computing. The Subcommittee is also charged with determining what needs there are for access to a supercomputer (or near-supercomputer), and with determining how these needs may best be met.

It was reported that two meetings of the High-speed Network Advisory Committee had been held. Dick Denton was elected chairman. The members of the Committee are as follows: Bob Barnes, Bobb Carson, Dick Denton, John Ochs, Gary Lutz, Joseph Klein, Matt Reilly, John Wilson, Joe Lucia, Bill Harris, Roy Gruver, Ed Eigenbrot, and Bob Huth.

For this September, it was reported that the Network Server total connect time increased only slightly over last year. System utilization, however, increased 30%. It was also reported that LUCC is working on a new mail system for the Server, and expects to begin testing with users by January.

It was reported that the amortization budget for the CYBER had been eliminated for 1990-91.

In the report of the Software Subcommittee, it was stated that minutes of the October meeting are on the Network Server under INFO topic CCC. It was noted that the conference is not restricted to the Subcommittee members; others are welcome to join in the discussion.

There was a discussion of the draft policy on computer maintenance. The CCAC felt that the criteria for equipment covered under the policy should be operational, as opposed to the cost or value of the equipment. There was a discussion of whether there should be a central budget to maintain the equipment, or whether the departments should be totally responsible for the maintenance funding. The problem of recovering maintenance dollars after the equipment is no longer in service was discussed. Bruce Fritchman will rewrite the policy, considering the Committee's comments.

Computing Center Advisory Committee Minutes: November 20, 1989

Members present: W. Brichta, W. Dimm, T. Foley, B. Fritchman, R. Gruver, B. Hargreaves, F. Harvey, E. Kay, R. Kendi, R. Lawrence, C. Lidie, J.G. Lutz, M. Newman, J. Paul, D. Sanchez, W. Schiesser, K. Weiner, J. Williams, R. Wilson

The Committee was updated on the current status of the Apple Macintosh computers. The 5 machines that Apple had donated to the University have yet to be received but are expected around the beginning of January.

It was reported that the Software Subcommittee had drafted a priority statement for the funding of software requests. The Committee was asked to look over the statement on the CCC conference on the Network Server. The following software requests were approved by the committee:

- **LISREL 7** - requested by Ray Horton.
- **NOTEBOOK II**, Desk Dist., and Concise Dict. of 26 languages - requested by Norm Girardot for evaluation purposes.
- **STATISTICAL NAVIGATOR** - requested by Joan Spade for evaluation purposes.
- **WORDSTAR** - requested by student consultants to be placed at the Grace site. A discussion about allowing students to make software requests lead the Committee to recommend that students be allowed to make requests and a mechanism for informing the students be instituted.

It was reported that the PC Rollover Subcommittee had only met electronically and that other members of the CCAC are encouraged to take part in the conference (INFO topic **PCR**). The questions that need to be addressed are:

- What is the minimum machine that can support Unix?
- Is there critical software that requires workstations rather than PC's?
- Can the Subcommittee distinguish between critical software that is used primarily for research/teaching laboratories and computer classrooms as opposed to office applications?

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The cost and manpower requirements of replacing PC's with workstations were also discussed. Besides the cost of workstation maintenance, it was pointed out that current workstations are complicated devices and normally need a system manager – especially when they are configured in a local area network environment. It was proposed that the Subcommittee prepare and distribute a poll in December to determine faculty needs.

It was reported that the Computer Intensive Needs Subcommittee had met once and that the Computing Center was gathering data on its computing intensive users and on what current technology and options exist to upgrade the CYBER 850. It also was reported that the Subcommittee was thinking of polling the faculty to determine their needs. It was suggested that it might be useful for the PC Rollover Subcommittee to work with the Computer Intensive Needs Subcommittee to poll the faculty once instead of twice. It was thought that the best time for polling the faculty would be the beginning of the Spring semester.

In a discussion of Usenet access and policies, the issues of system resource usage and possible legal liabilities were discussed. It was felt that there were enough ports on the Network Server to handle the possible additional usage. It was suggested that we may want to limit topics to those that were "educational" in nature. It was questioned whether the type of information available on Usenet might be offensive to the parents of students attending Lehigh. It was stated that some INFO topics (such as LITFORUM) have recently started, which also contain some very questionable material. The question of censorship of information was discussed. It was pointed out that the University has the right to shape the Information System's content and that no one has the legal right to just post anything on the Information System.♦

Staff Changes

Change is occurring within User Services. Linda Orr has left the Computing Center and will be attending graduate school in Chicago. Replacing Linda as a User Consultant is George J. Grevera, who joins User Services from Bio-Automation where he was the Lead Software Engineer. There, he developed software (in C, using Oracle) to acquire and analyze data from a biomedical scanner; this software runs under VMS, Unix, MAC/OS and MS-DOS. He has also worked for CDC and for Shared Medical Systems.

George has a B.S. in Computer Science and Biology (double major) from the University of Scranton, and is currently enrolled at Drexel in its master's program for Computer Engineering.♦

Computing at Lehigh Contribution Information

Computing at Lehigh encourages contributions for articles and *Consultant's Corner*.

Contributions can either be submitted electronically via the Network Server to user `BRBO`, or be provided on a MS-DOS formatted diskette. Contributions sent via the Network Server must be in ASCII format (i.e., be plain text). Acceptable document formats are:

- ASCII (not word-processed)
- EXP
- Freestyle
- WordStar
- WordPerfect

Printed copy is welcomed, but please also accompany the printed copy with the text in one of the above formats (especially for articles and other long contributions). All mailed contributions (whether on diskette or printed) should be sent to the following address:

Editor, *Computing at Lehigh*
194 Fairchild-Martindale #8b
Computing Center
Lehigh University
Bethlehem, PA 18015

Contributed articles are included in *Computing at Lehigh* at the discretion of the Computing Center. The Computing Center reserves the right to edit all contributions. Article submissions must be received by July 31st for the August issue; September 15th for the October issue; December 15th for the January issue; and, February 10th for the March issue. Be sure to include your name, mailing address, and phone number.

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